H_2Oregon

Spring 2011
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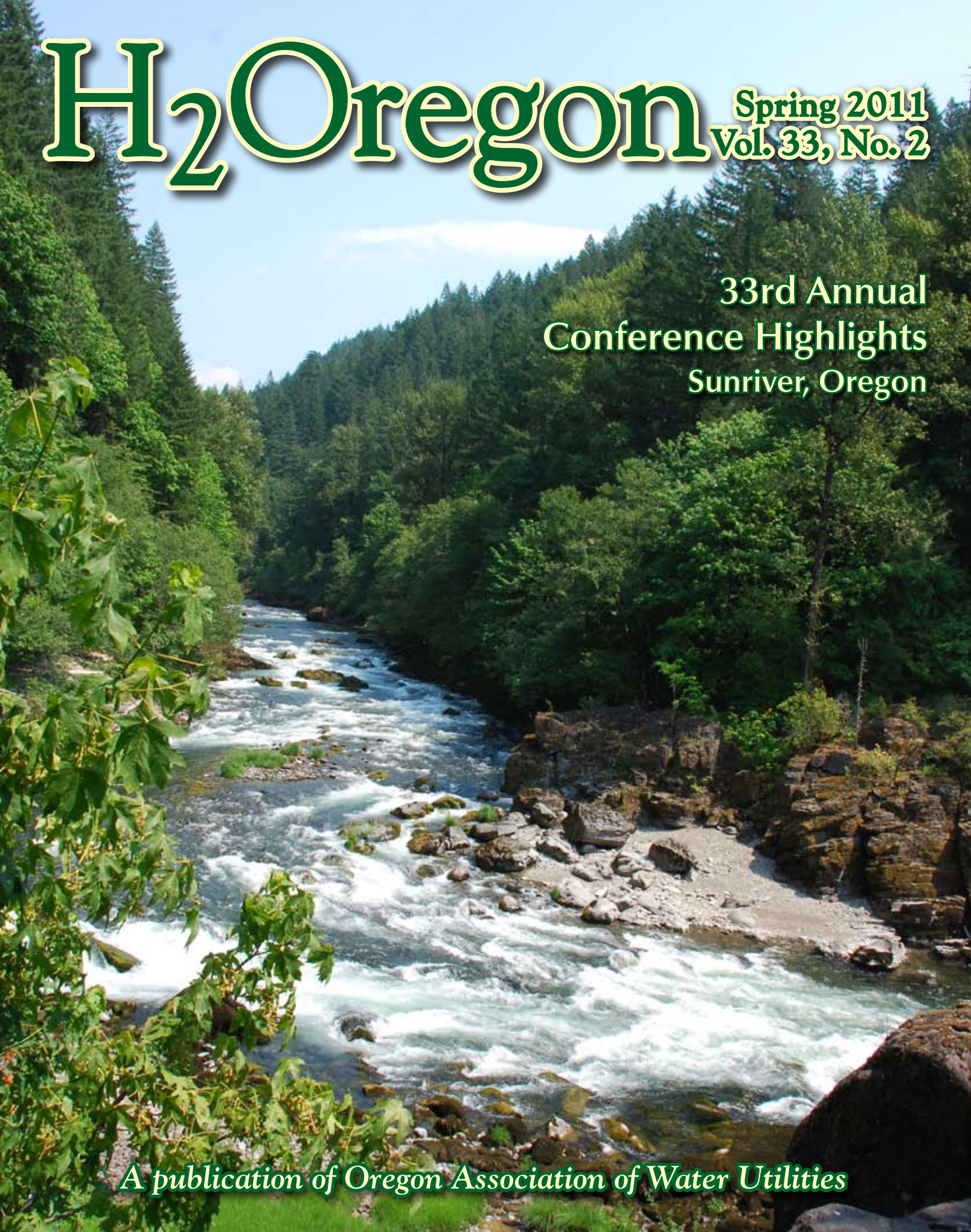

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Sunriver, Oregon

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2009 Magazine of the Year

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Please mail your photo to our office. If we use your photo on the cover you will receive an official OAWU shirt and hat.

We are also seeking articles, clean jokes, Oregon trivia, letters to the editor and interesting stories. Please send submissions (no more than two pages in length) to:

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COVER PHOTO

Niagara Park on the North Santiam River, photo by Mike Whitmore

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OAWU's mission is to provide service, support and solutions for Oregon water & wastewater utilities to meet the challenges of today & tomorrow.

System O&M Manuals Required

Have you completed your state-required Operations & Maintenance Manual?

Oregon Association of Water Utilities has prepared a full day class to assist operators in outlining an operations and maintenance manual per the Oregon Administrative Rule 333-061-0065 which requires each water system to develop an operations and maintenance manual.

This class will assist the water and wastewater system operator in outlining the specific points in developing the draft of the O&M manual. Step by step, each attendee will create their draft as it relates to their utility system during class. The e-file may then be completed back at the system office.

Class cost is $150, or if you are unable to attend a class you may purchase a thumb drive with e-files for $150.

To sign up for the May 25 class in Bend, or to have a thumb drive mailed to you, contact your Association for further information. Additional classes to be scheduled.

HIGHLIGHT

33rd Annual Management and

This year's conference attendees were greeted at Sunriver by a comfortable, down-home feeling. There were lots of people taking advantage of the opportunity by catching up with friends as well as making new ones within the industry. OAWU staff very much enjoyed serving the members of the association and providing assistance. Sunriver staff again provided genuine, friendly, on-the-spot service as well as great food.

The conference sessions were lead off by Jason Green, your OAWU Executive Director, and Russ Cooper, your OAWU Board President. They discussed the state of the industry as it is today and they had a little fun with each other as they discussed the future of the industry. They were followed by Doug Anderton, Sr. Vice President of National Rural Water Association. Doug provided an update on the issues the industry is facing on a national level. Mark Landauer then spoke about the legislative issues we are facing on a state and local level.

Back at Sunriver this year by popular demand were Joe Chambers and George Taylor. George spoke with a charming, witty, and sometimes sardonic delivery about the possible ramifications of climate change and what we can expect to see in the near future. Joe's presentation on leadership and what we can all do to lead a "high impact life" was inspiring and thought provoking for all those in attendance.

The OAWU annual business meeting was held after class sessions ended on Tuesday. President Russ Cooper presided over the meeting as attending members heard committee updates and elected board members. Re-elected to the board were:

Russ Cooper of the City of Monmouth.

Tim Bunnell of the City of Harrisburg.

Phil Davis of Odell Water Company.

Edson Pugh of Deschutes Valley Water District.

Russ also received recognition for his dedicated service as your OAWU Board President from 2008 to 2010.

Your OAWU Board officers, as elected at the March 18th regular board meeting, for 2011 are:

Mark Snyder, President.

Mark Kerns, Vice President.

Mark Beam, Treasurer.

Tim Bunnell, Secretary.

Russ Cooper, Past President and NRWA Director.

The awards banquet, on Wednesday evening, was well attended and it was great to see all the families who come and enjoy a wonderful meal as well as camaraderie. There was some very close competition for several of the awards this year. The 2011 Manager and Operator award recipients are as follows:

The **Manager of the Year** award went to Roger Prowell of Chenowith PUD.

The **Office Manager of the Year** award went to Patsy Ingram of K-GB-LB Water District.

The **Water Operator of the Year** award went to Marty Ball of Lakeside Water District.

The **Wastewater Operator of the Year** award went to Shelly Canopa of the City of Butte Falls.

The **Rookie of the Year** award went to Jerry Beams of the City of Butte Falls.

The **Associate Member of the Year** award went to John Koch of General Pacific.

The **Friend of Rural Water** award went to Gary Burnett who recently retired from the Oregon Drinking Water Program. Gary's wisdom and common sense will be missed and we all wish him well in his retirement.

Very heartfelt congratulations to all of our award recipients. These awards recognize the dedication and commitment made by those who choose to serve the communities throughout the state of Oregon every day. Just a reminder; if you have an employee whom you would like to nominate for next year's awards, submit the information to the OAWU office for consideration.

Our Best Tasting Water award recipients this year were Lakeside Water District for Best Surface Water and McNulty PUD for Best Ground Water. The submissions are judged in the categories of ground water and surface water and then the winners go head to head for best overall. The winner of the best overall category is flown to Washington DC and submitted for judging in the Best Water in the Nation contest. Also in this issue of H2Oregon, please see the press release announcing the results of this past Best Water in the Nation contest.

Other awards of appreciation were received by Russ Cooper for his invaluable service as your Board President from 2008 to 2011 and to Pat Dorning for his exceptional service on your Board of Directors from 2005 to 2011. Our own Jason Green and Bruce Hemenway also received recognition for their years of dedicated service. Jason received an award for 15 years of service to OAWU and Bruce was recognized for 40+ years in the industry and exceptional service to our membership.

The evening was capped off by another energetic performance by Michael John. Michael's performance included music and comedy, both of which required the assistance of audience members. Who knew Mark Beam could actually sing? Thank you all for playing along and making the evening memorable for all.

At the Exhibitors Hospitality Night on Thursday there were lots of door prizes, raffles (even a spontaneous raffle in support of the Jeff Swanson Memorial Scholarship fund), as well as food and drink. Lane Goodenough of the City of The Dalles won the Best Crazy Shirt contest. The raffle winners were:

Wes Garvin of Cannon Beach for the 46" Sony Bravia TV/Blu-Ray/Avatar movie combo and Joel Salter of the US EPA for the $100 bill.

The winners of the ping pong and cribbage tournaments were announced. First place in ping pong was Dave Bobbett of ITT Flyght. Dave received a $100 prize. Tim Bunnell Won the $75 prize and a handmade cribbage board for winning the cribbage tournament. The $100 winner of the Find the Logo contest was Daniel Willyard of Cannon Beach.

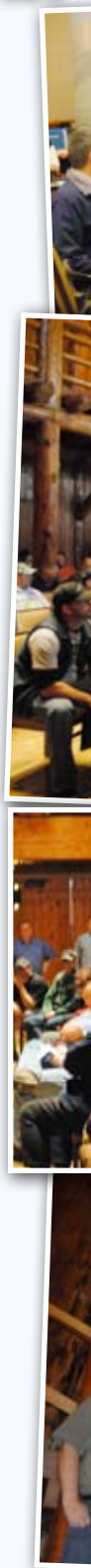
We also wish to thank the following associate members for their sponsorship at this year's annual conference:

Special District Association of Oregon – Silver sponsorship.

Ferguson Waterworks – Bronze sponsorship.

Natgun Corp. – Bronze sponsorship.

We wish to thank our Associate Members for their donations and time in support of this conference and of course the members who continue to believe in and support their Oregon Association of Water Utilities. Again, as last year, our challenge to the membership is to bring a friend with you next year and together can prove that we can "Build for the Future", the first week of March, 2012. See you there! Best wishes to you, our friends.



TS REVIEW

Technical Conference in Sunriver



















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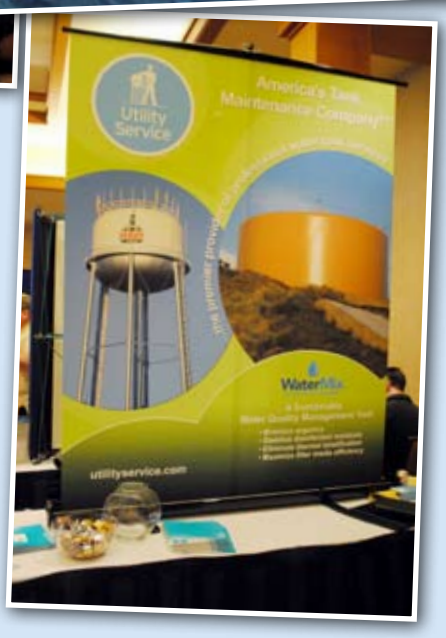

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OAWU thanks our speakers for sharing their time and expertise at our 33rd Annual Conference.

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Chris Augustine, GSI Water Solutions, Inc.

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Spring Preparedness

by Hans Schroeder, Circuit Rider

Spring is upon us (well, in some parts of our State). Let's look at some things that should be addressed before we go out and start working in the field. Some of these items may have already been completed this last winter when we would look out the shop window and watched freezing rain, fog, rain, wind and other wonderful winter weather elements affecting our desire to work outside. There can be some forgotten preventative maintenance issues over-looked if they aren't brought to our attention. As soon as the weather changes and we are ready to get out and get some dirt worked, the excitement may take over the thoughts of maintenance. Let's run through a checklist of some things that may make the spring and summer run smoother.

Vents on the reservoirs may need a cleaning. This is usually a great place for the birds to nest in the cold, or for bees to build their hives. This can cause a few problems, such as contaminants getting into the water and also improper ventilation for the water to flow freely throughout the distribution lines.

Has the equipment been serviced this winter? Tires on the backhoe, grader and lawn mowers should be inspected for weather checking and pressure. Oil changes and fluids should be checked in all the equipment. Portable pumps should have been drained for the winter so that they didn't freeze up. Are the portable pumps in proper working condition for this year? If you are in charge of parks, the mowers and weed eaters should have an oil change and be ready to get to work.

Another area that can be easily over looked, are the catch basins or "bubblers" that may be at either side of intersections. Through the fall and winter these can gather leaves, sticks and other debris. Most of the time if these got plugged we probably would have gotten a call from a citizen, or noticed that an intersection had turned into a duck pond. I actually have seen these "duck ponds" where someone had put duck decoys in it for a joke.

This spring we should make a good note to check all the cut and repaired streets. The water dept., sewer dept., the gas company or any other utility may have put in lines last year that have settled through the winter and spring. These street cuts may need to be dug out, re-compacted and a new asphalt patch installed. There could be some trenches that may need top dressed because previous line installations have settled.

Is the shop in order for a busy summer? The shelves should have a few dresser couplers, repair bands, corp and curb stops, meter setters and other fittings needed for repair and replacement of pipes.

The Drinking Water Program is in transition. They are changing their name to OHA which stands for Oregon Health Authority. We should check with our local DWP/OHA or their web site and make sure that we are up-to-date on the sampling schedule for the year. There are annual, three-year, six-year and nine-year dates that need to be kept in mind that may need to be taken. The samples that may be on a three-year schedule are Lead/Copper, SOC/VOC, Arsenic and HAA5-TTHM. Some nine-year samples are Nitrite, RAD Gross Alpha and RAD Radium. These samples are what need to be checked annually on the States sampling schedule for your system. A good reminder is to print off the schedule from the DWP/OHA web site for your system, and highlight the samples that need to be taken for this year and post this above your desk. Also, those samples that will need to be taken next year should be considered when approaching budget time. The cost of some of these samples can get expensive and need the attention of the Budget Committee.

I hope that some of these points help you this summer. Planning out the year and preparing for the projects at hand provides for a smooth, productive summer.

The Erosion Impact

by Mike Collier, Sourcewater Specialist

This winter we saw record snow and rain fall causing everything from road closing mudslides (U.S. Highway 26) to rivers changing their course (Sandy River). While driving around our state I often see other impacts of such weather; eroded stream banks, streams that look like chocolate milk, fields with gullies eroded into them, and ditches full of sediment. Erosion can negatively impact surface and groundwater quality and can move nutrients and topsoil away from fields. Soil erosion occurs when the impact of water or wind detaches and removes soil particles. Types of soil erosion due to water movement include:

- **Sheet erosion** – the removal of a uniform, thin layer of soil from the land surface due to rainfall and surface runoff.
- **Rill erosion** – an erosion process in which numerous small channels a few inches in depth are formed by running water.
- **Ephemeral erosion** – small channels eroded by concentrated flow that can be filled by normal tillage, but will form again by additional runoff events.
- **Gully erosion** – when water accumulates creating narrow channels too deep to easily restore with ordinary farm tillage equipment; found near roads, sidewalks, parking lots, or in fields.
- **Bank erosion** – banks fail and add sediment to streams, this can happen for several reasons:
  - Channelized streams add to the erosive force of water on stream banks down gradient.
  - Groundwater seeps cause localized bank failure and saturated banks collapse.
  - Surface runoff from excess rain, snowmelt, or flooding scour the stream channel.

Let's further explore stream bank erosion. Stream bank erosion is natural and supplies the needed material for gravel beds and river bends. However, too much erosion can pollute water supplies, cover fish habitat, and threaten property. When a stream is healthy it balances water flow, sediment movement, its shape, and its energy. Streams tend to naturally meander and have plants growing along their banks; this reduces the erosive energy and traps stream sediment. Changes in the stream's watershed, floodplain, or in the stream itself can upset this balance.

Usually increased stream bank erosion is caused by land use change. When stream side trees and vegetation are removed and livestock is allowed onto banks, further exposing the soil, the stream banks erode more rapidly. When houses, sidewalks, and roads are built over soil the amount of water that can enter the ground is reduced and it instead becomes surface runoff. The increased surface water runs off faster and adds more energy to streams. The streams respond with a quicker storm response, become more erosive, and more flood prone. Also, dams trap sediment behind them decreasing the available sediment load; to counter loss of sediment the stream begins to erode its banks for the sediment source. When the sediment entering the stream isn't coming from the stream banks it often comes from fields, forests, and construction sites.

A canopy of trees and shrubs, a thick leaf layer, or grass protects soil in its natural state when raindrops fall or winds blow. Wind and water erosion create sterile soils, fill the air with dust, plug road ditches, carry pollutants, and clog fish habitat. By tilling, grazing, timber harvesting, and construction we speed up erosion and remove the natural protective layer. Consider that the average home construction site can lose 100 times more soil than cropland erosion and 2,000 times more than woodland erosion. With proper erosion control clean gravel beds produce healthy fish populations, cities reduce filtration costs for drinking water, farmers can reduce the amount of nutrients that must be applied, and harbors can lower their dredging costs.

The loss of soil from fields through erosion costs landowners money by robbing them, through gully formation, of potentially productive acreage and of the most fertile layers of soil. The upper portion of the soil (topsoil) contains bacteria, microbes, and fungi; which recycle dead plant matter back into nutrients that support plant growth. Studies show that under natural soil conditions fields

contain up to 200 percent more nitrogen and phosphorus and 20 percent more potassium than eroded soils, giving 25 percent higher crop yields.

To ensure reliable and profitable yield, producers apply herbicides, pesticides, fertilizers, amendments, and manure. Most of these materials attach to soil particles, where they function as intended. However, when the soil erodes these nutrients and chemicals are also transported, thereby polluting the surface water or leaching into groundwater aquifers. Increased levels of nitrogen, phosphorus, sediment, and temperature are the leading contributors to reduced water quality. As a result of the nitrogen and phosphorus enriched sediments entering surface water eutrophication (the growth of algae) occurs, decreasing the dissolved oxygen levels of the water. Increased sediment in streams can also tax water filtration equipment. Controlling erosion is vital to any plan to improve water quality. This can all be accomplished by participating in some best management practices. Best management practices that control soil erosion by intercepting raindrops, blocking wind, reducing surface water runoff, and preventing soil detachment include:

- **Conservation tillage** – reduces the amount of tillage and leaves cover from crop residue after harvest and during winter months reducing soil loss by 50 percent compared to bare soil.
- **Residue management** – improves soil water intake by preventing soil surface sealing due to rain drop impact, reducing surface runoff.
- **Grassed waterways** – wide, shallow, waterways reduce the speed of water by providing a grass cushion and prevent gully formation. They also act as a filter by trapping sediment and covering the soil, stopping it from being detached and transported.
- **Terraces** – break up slope length, reduce steepness, slow surface flow, and lower sediment transport.
- **Conservation buffers** – areas or strips of land in which permanent vegetation is established to protect streams, lakes, ponds, and ditches, and to stop sediment at the lower edge of field crops. A streamside buffer of trees (reinforces slopes to greater depths), shrubs, legumes, and grass strips protect from surface erosion into streams, ditches, and lakes in the following ways: slows surface water flows and floodwaters, protects banks, filters overland pollutants, traps sediment, and has the added benefit of providing wildlife habitat.
- **Crop rotation** – changing between different crops on any particular field to avoid the buildup of pathogens and pests. Cover crops temporarily protect the soil until the main crop is planted, add organic matter, hold nitrogen, and reduce weed growth. Plus thick, fibrous root systems associated with cover crops bind the soil together.
- **Contour farming** – runs rows around the hill rather than up and down the slope, forming hundreds of small dams that slow water and reduce soil loss up to 50 percent.
- **Silt fences and permanent structures** – rock, metal, or concrete structures permanently protect the soil from forming gullies by taking the erosive force of the water and reducing the slope. Silt fences block sediment moving from a construction site to surface waters.

At any particular site the soil, climate, topography, and land use will require a unique mix of these practices. Some examples are: contour buffer strips, combination of contour farming with strips of permanent grass; or combining plants, fertilizer, permanent structures, and mulch to protect construction sites, road banks, and steep slopes. Through careful consideration of the best management practices we can properly manage the winter storm runoff that Oregon receives to protect both the land productivity and the water quality for the future.

Erosion Prevention and Sediment Control, Ag Water Quality Plan Fact Sheet, March 2002

Field Borders, USDA Natural Resource Conservation Service Field Office Technical Guide, Revised December 2005

Glossary of Soil Science Terms, Soil Science Society of America, 1996

Protecting Stream banks from Erosion, Tips for Small Acreages in Oregon, Fact sheet NO. 4, January 1999

Protecting Your Land from Erosion, Tips for Small Acreages in Oregon, Fact sheet NO. 13, January 1999

Soil Erosion and Water Quality, Mahdi Al –Kaisi and Michael J. Tidman, IC –486 (2), February 2001

Navigating the Rules and Regs

by Heath Cokeley, Circuit Rider

Many of the questions I get asked when I'm out in the field pertain to rules and regulations. A brief article on simple ways to find the rules and regulations you are looking for is appropriate. That is not to say that if you are looking for something specific you can't just give one of us Circuit Riders a call or shoot us an e-mail as we are always happy to help. In the water industry, the primary rules that pertain to our systems in Oregon are ORS 448 and OAR 333-061. If you have been to any classes taught by OAWU staff you have probably heard us refer to one or both of these rules. The information I am going to go over in this article primarily pertains to OAR 333-061.

First - how to access the rules and regulations. Many of you have the Oregon Health Authority Drinking Water Program saved to your favorites. If not, I recommend using this link to put in your favorites: **http://public.health.oregon.gov/HealthyEnvironments/DrinkingWater/Pages/index.aspx**

After going to this site, look on the left hand side of the screen where you will see a list of links to different parts of the site. The 11th one down is "Rules & Regulations." By clicking on that link it will take you to a page that you can access both ORS 448 and OAR 333-061. As you scroll down you will see that you can pick out the individual chapters you are looking for in OAR 333-061. Directly above that you can click on "Complete Rules" and view all 375 pages of this rule.

Second - Don't get discouraged by looking through all 375 pages. There are a few short cuts you can take to find a specific bit of information. For those of you who are like me, computer challenged, click on the "complete rules" section, click on the "find" box up top and type the key works to access the information you are looking for. The program will then find every place in those 375 pages that your keyword or words are used. For instance, if you are looking for information on a disinfection residual maintenance you could type in "residual maintenance" into your find box and it will tell you that those words are first used on page 7 and then the next time on page 190. Yes, I know many of you are thinking "that's easy, I already knew how to do that" but considering that the most important components or my computer maintenance program is loaded weapons and good aim, was a pleasant surprise to me when I discovered my computer could do this.

Third - Interpreting what you read. Some of the rules and regulations can seem complicated at first glance (and second and third) but if you can break it down into small sections this may help you interpret the intent of the rule. In every chapter of OAR 333-061 there are numbered sections that pertain to one part of that chapter. In those numbered sections you will find a subsection labeled with a lower case letter that will describe an even smaller piece of that section and many times there will be more subsections breaking that part of the rule down even further. If you start at the beginning of the subsection labeled with the lower case letter or even better, back at the beginning of the section labeled with a number that may help you see all pieces of the rule clearly. Many sections will also refer to other sections of the rule by saying "as defined in" or "pursuant to." If you see this you simply need to refer to the chapter and section to which it is referring in order to obtain the other part of your answer.

There are many other aspects to the rules and regulations that govern Oregon's water systems but I do not have enough space in this article to go over all of them. I hope that there were pieces of this article that will be helpful to you when looking up regulations in the future. Like I said in the beginning of the article, if you have any question, just ask a Circuit Rider. Hope all is well with the systems out there and I will see you down the road.

NRWA Scholarship Awarded to Dallas, Ore. Graduate

DUNCAN, Okla. – Moriah Helm, a graduate of Dallas High School, has been awarded a National Rural Water Association Scholarship. The NRWA Scholarship is a one-year scholarship valued at $2,000, which is awarded to the children and step-children of Rural Water staff across the nation.

Helm will graduate holding a 3.25 Grade Point Average, and earned a scholar athlete award twice. She participated in cheer and won the Most Inspirational Award in Choir. She has been accepted to attend the Oregon Institute of Technology after graduation and major in Dental Hygiene.

Moriah is the daughter of Tamra Helm, an Office Assistant with the Oregon Association of Water Utilities.

Scholarship recipients are selected by the NRWA Scholarship Committee, based on the applicant's academic record, awards, honors, leadership, activities and content of a 250-word essay.

Math Error Causes Crash

by Scott Berry, Circuit Rider/ Programs Manager

I have had many conversations with Heath Cokeley and Dave Branham, our resident math guru's, about math. They are continually telling me to "label your units!" and "use the right conversions!" but it didn't really sink in until I heard the following true story. It's a story that was covered extensively in the news but most of us have probably not heard it or have forgotten it.

The date was July 23, 1983. It was supposed to be just another routine day for the crew of Air Canada Flight 143. The flight crew and ground crew were preparing the aircraft for departure to Montreal shortly before 6:00 p.m. for a short hop to Ottawa to pick up more passengers and then another 1700 mile flight across Canada to Edmonton Alberta. In the captains seat that day was Captain Bob Pearson and the first officer was Maurice Quintal.

They were flying a plane that was very new to the Air Canada armada. The Boeing 767 was one of the most sophisticated commercial aircraft at the time. It was also one of the first commercial aircraft to change over to the digital age. The cockpit of the 767 was a "glass cockpit" meaning it did not have the multitude of analog gauges and instruments; instead it had a bank of computer screens displaying the information in digital format. Because the 767 was so new to the airline, there were only a few pilots qualified to fly the plane. Fortunately for the passengers aboard flight 143, Captain Pearson was one of those pilots. He was trained by the Canadian Air Force and had more than 26 years on the job for commercial airlines. As with automation in any industry, the digitalization of the cockpit meant the loss of the Flight Engineer. The plane was operated by a pilot (Captain Pearson) and first officer (Co-pilot Quintal) and the duties of the flight engineer were divided up among the condensed flight crew, the computer, and the ground crew.

Upon boarding the plane, Captain Pearson and First Officer Quintal were informed by the ground crew that there was something wrong with the fuel quantity processor – the gas gauge was broken and because the plane was so new, there were no spare parts to be had. It's not all bad news though, also because the plane was so new and sophisticated; it was capable of measuring the rate at which fuel was being consumed. That meant that if they manually told the computer how much fuel was in the tanks at the start of the flight, it would automatically subtract the amount of fuel being consumed and give a precise estimate of how much fuel was left and display the information on a digital estimated fuel gauge.

Captain Pearson was understandably concerned about taking off without having a working fuel gauge so he consulted the 767's official Minimum Equipment List (MEL) to see if the plane could be cleared for flight with its fuel gauges not functioning. The MEL clearly stated that the plane was not cleared to fly. When Captain Pearson pointed this out to the ground crew mechanic the mechanic assured him that the plane had been cleared to fly by Air Canada's Maintenance Control division. The Maintenance Control division has the final say, even when in contradiction to the MEL, as to whether or not an aircraft is okay for flight.

As if there was not already enough confusion, the 767 was the first jumbo jet in the armada to use the metric system rather than the traditional Imperial system of weights and measures. Rather than pounds, the 767's fuel was measured in kilograms. Oh wait, there's more. The fuel truck supplying the plane measured its load by volume in liters. Normally, the math would have been completed by the flight engineer. As an investigation later revealed, the pilots' had been told that fuel calculations were the responsibility of the ground crew. No one on the ground crew had been trained to do the calculations so the responsibility fell to the captain and the first officer.

The flight crew knew that they needed 22,300 kilograms of fuel to get to Edmonton; there were 7,682 liters of fuel in the tanks. The question was; how many additional liters of fuel did they need to get to the 22,300 kilograms they had to have? Captain

# of Flight 143

Pearson was accustomed to thinking in imperial terms, not metric. He asked the fuel truck operator what the conversion factor for liters to kilograms was. 1.77 was his answer and the flight crew agreed. They did the calculation backwards and forwards several times and finally determined that they needed an additional 4,900 liters of fuel from the fuel truck. They transferred the fuel and prepared to take off. Flight 143 made the short hop to Ottawa and Captain Pearson rechecked his calculations with the ground crew there. Satisfied that all was well, Flight 143 with its 61 passengers and a crew of 8 took off.

Heath and Dave:

A liter of jet fuel weighs 0.803 kg, so the correct calculation was:

7682 liters × 0.803 = 6169 kg

22300 kg − 6169 kg = 16131 kg

16131 kg ÷ 0.803 = 20088 litres of fuel to be transferred

Between the ground crew and flight crew, however, they arrived at an incorrect conversion factor of 1.77, the weight of a liter of fuel in pounds. This was the conversion factor provided on the refueller's paperwork and which had always been used for the rest of the airline's imperial-calibrated fleet. Their calculation produced:

7682 liters × 1.77 = 13597 kg

22300 kg − 13597 kg = 8703 kg

8703 kg ÷ 1.77 = 4916 liters of fuel to be transferred

So they really had less than half the fuel they thought they had. Big problem.

Around 2 hours into the flight the warning beeps announced that one of the two fuel pumps in the left tank was reporting low fuel pressure. This was shortly followed by a second alert that the other fuel pump was also reporting low pressure. The fact that both fuel pumps were reporting the same thing told Captain Pearson that it was not a malfunctioning fuel pump, it had to be fuel. At this point, he made the decision to reroute the flight to the nearest major airport in Winnipeg. A little under ten minutes after the first indication of trouble, the left engine ran dry and quit. Three minutes after that there was a loud alert that neither pilot had ever before heard when the right engine followed suit and sputtered then went quiet.

The following conversation took place in the cockpit:

Captain: "OK, now all of the lights are flashing and…"

Airplane: BONG!

(pause as Captain and Co-pilot look at each other quizzically)

Captain: "Bong?"

Co-Pilot: (shrugs)

(both suddenly yank out emergency manuals and feverishly begin flipping through them to find out what the heck "BONG!" means)

Flight 143 had just become the worlds largest and, weighing in at 300,000 pounds, the heaviest glider. As if that wasn't bad enough, he was flying without the aid of instruments or even the assistance of the hydraulic system. They were both run from the electrical generators that were powered by the engines. At an altitude of 30,000 feet, Captain Pearson was flying… gliding a 300,000 pound aircraft without instruments and fighting unresponsive controls. More problems.

First Officer Quintal attempted to start the auxiliary power unit but quickly realized that out of gas means out of luck in a 767. There was no other source of power for the instruments. There was one last hope for the hydraulics though. The redundant system for the hydraulics was a ram air turbine (RAT). It could be manually lowered into the airstream and, like a wind powered electricity generator, it would produce just enough hydraulic pressure to operate basic flight controls. While Captain Pearson fought the controls, First Officer Quintal looked for the section in the emergency procedures manual that covered complete engine failure. He found that there was no procedure for that because there were multiple redundancies built in and it was, well, impossible for a jumbo jet to run out of fuel. The only good news is that the radio and a few basic pre-WW II technology instruments were operating off of a back up battery. With help from the air traffic controllers, they were able to estimate that they were losing 5,000 feet for every 10 miles traveled.

They were not going to make it to Winnipeg.

The air traffic controllers suggested that he reroute to an old air force base in the town of Gimli, Manitoba. The base had closed in the early 1970's but one of the two parallel runways was still being used by civilian aircraft. Captain Pearson immediately agreed. That airport was where he had trained back in his air force days and he was very familiar with the airports runways.

As the Gimli police and fire departments were notified of the fast approaching aircraft, the supervising Flight Attendant exuded false calm as he informed the passengers of the situation and instructed them in the fine art of not freaking out during an in-flight emergency. In the town of Gimli, people had their first indication that something was very wrong when a silent and very low-flying jet slipped quietly overhead.

Captain Pearson, in addition to being a very experience commercial pilot, had ten years experience as a glider pilot and he was using every skill he had learned. Captain Pearson had a functioning air speed indicator and an altimeter but there was no procedure to follow for safely dead-stick gliding a 767 to a landing. It had never been attempted. Captain Pearson estimated the speed at which he needed to be traveling for a landing, too fast and he would over-shoot the runway and crash into the trees beyond. Too slow and he would cause the plane to stall and nosedive into the ground.

As the airstrip came into view, Captain Pearson realized that he was too high. He had to slow down and lose some altitude. He asked First Officer Quintal to lower the landing gear hoping that the additional drag would slow them sufficiently. You guessed it, more problems.

The RAT functioned on hydraulic pressure generated by the wind rushing by the windmill-like turbine. As the plane descended and slowed, so did the turbine. The redundancy for the landing gear was a simple switch that pulls the pin out of the hydraulic rams and allows the landing gear to violently drop and lock into place. First Officer Quintal hit the switch and listened as the right and left landing gear dropped and locked into place but the nose gear was still not locked. With the landing gear now lowered, they were still coming in way too fast. Captain Pearson wrestled the plane into a glider maneuver called a sideslip: he yanked the control yoke hard to the left and stood on the right rudder pedal. This maneuver caused the left wing of the plane to dip dangerously low as the plane hurtled in belly-forward at over 200 miles per hour. He held this position until the left wingtip was a mere 40 feet off the ground and then leveled off for landing. Nothing else could go wrong, right?

You recall me saying that of the two parallel runways at Gimli airport, one was still used for civilian aircraft. Unfortunately, that wasn't the one they were headed for. The other runway was used by the local car club as a race track and they had been racing there earlier in the day. The race was over but the club was now parked on the runway, with their cars, families, friends, campers, awnings, chairs, ice chests, barbeques, and tents at the end of the runway. Because the 767 was gliding in, no one on the ground had any idea what was speeding headlong towards them. There was no way they could get clear in time.

When the plane hit the runway, Captain Pearson literally stood on the brake pedals trying to stop the aircraft before he hit the people and cars. Luckily, the fact that the nose gear had not locked into place and buckled on contact and caused the plane to land on its belly. The additional friction of the front end of the plane grinding against the runway helped to stop the plane a mere 500 feet from the car club.

The only injuries were caused when people started evacuating from the rear of the plane that, because the front was on the ground, was very high in the air. Almost as the plane was grinding to a halt, a team of engineers were assembled and departed Winnipeg to assess the damage. In yet another delicious bit of irony, their van ran out of gas on the way to the crash site.

We in the water industry may never have such a dramatic scenario unfold due to an error in our math will we? Very few water operators have the luxury of affecting the health and safety of only a few dozen people.

MAKE A NOTE!
NRWA Events

H2OXPO, Louisville, KY
October 4-6, 2011

Water Rally, Washington, DC
February 5-8, 2012

Conference. Nashville, TN
September 16-19, 2012

Reminder: Consumer Confidence Reports are due July 1, 2011

There is a template available designed to assist you in creating your Consumer Confidence Report (CCR). It allows you the flexibility needed for the specific requirements of your utility. The CCR requires that certain items and specific language be included in all reports. These items are clearly marked in the template. Throughout this template you are given several carefully worded choices in order to "personalize" your utility's report to your customers.

Please consider carefully what you wish to say. How you say something to your customers is as important as what you say. Take advantage of this regulation to put forth a positive public relations image of your system, the quality of the product you serve and the professionalism of your board and personnel. Contact OAWU for a template at 503-837-1212 or office@oawu.net.

From the Old to the New

by David Branham, Wastewater Technician

As the new century moves into the second decade and the speed of technology almost seems to overwhelm us, let's take a look at what is happening in the wastewater industry. In the state of Oregon, Senate Bill 737 has recently been passed. This bill calls for a reduction, if not a complete removal, of over 100 pollutants ranging from pharmaceuticals to heavy metals. Many of the items on the list have already been addressed by our industry but a number of others present quite a challenge for our systems and those of you that operate these systems.

At the turn of the century a "perfect storm" was about to take place. Along with the fact that most of the wastewater facilities had reached their life expectancy and were just plain worn out and using outdated technologies, something else interesting was happening. The acronym TMDL begin to be bandied about. In about 1999, the US EPA & Oregon DEQ were about to enforce the implementation of the Clean Water Act 303(d). The impact of Total Maximum Dailey Loads (TMDL) on regulated entities was to begin in earnest.

As a result, many new systems have been built and put into operation over the last several years. A wide range of and many types of systems and processes are now being utilized; they range from the "conventional activated sludge plants" to filter membrane systems, Biolac Activated Sludge Systems, sequencing batch reactor (SBR), and the oxidation ditch, and sometimes a combination of several of these processes.

Winchester Bay, a small unincorporated community along the coast was having a particularly hard time meeting its NPDES permit. The donut style plant that had been built in the late 1960 era was no longer able to function as a viable unit. Time and the heavy salt air had more than taken its toll on the plant to the degree that it was no longer even safe for the operators to operate.

The census of 2000 shows the small community to have a population of 488 people and 139 families. However, the small bay town is home to several county and state parks as well as a huge private RV and fishing facilities. Tourism is a significant component of the economy and this scenario is common along the Oregon Coast with communities having a small permanent population and swelling to many times their size during tourist and fishing seasons. It was evident that the district was in dire need of a new wastewater treatment system.

The wastewater treatment system that the district chose to handle this huge fluctuation of influent BOD, as well as the I&I situation that is so common on most of the aging fleet of collection systems was a sequencing batch reactor, more commonly referred to by its acronym SBR. The reasons that the district chose this machine are as follows:

1. Improved effluent qualities.
2. The elimination of separate clarifiers and sludge return pumps.
3. Increased settling area.
4. A perfectly quiescent settling environment.
5. Demand controlled energy consumption.
6. Short-circuiting eliminated.
7. A special ability to handle extremely high organic and hydraulic shock loads.
8. The capability to equalize flows and loads.

The new water reclamation facility now puts out an effluent quality that is second to none and it also has a state of the art laboratory that is the top of the line. The sequencing batch reactor has responded to changes in technology.

One of the weak points these machines have had, in the past, was in operational control. Computer software had not yet advanced to a point that the operators could make operational control changes. If a change was needed the operator had to contact the parent company and have their computer person make the change. Often times this could take days if not weeks. Almost all systems now being built have computer control, and as such, the system will not be able to function without it. Computer software has now caught up with the industry and is now more user friendly.

As I mentioned in the opening paragraph, technology and especially computer technology has been moving very fast and sometimes I find it hard to keep up. So with that I will say; great job to the operators of Winchester Bay. Not only have they taken the time and effort to train for the 21st century technology in computers, but they have also taken the time and effort to be excellent Lab Technicians. And with that I must say, hats off to you, Ray, Ken, James and not to forget Sonnia.

From OAWU and me, great job and many thanks.

—Dave

Got Source Water Protec

by Jack Hills, Source Water Specialist

Do you drink ground water or surface water? Today's water supplies are vulnerable to so many potential contaminant sources it can make your head spin. Fortunately there has been a lot of work completed on the majority of public water systems, where the review of individual systems has identified their source(s) of supply, delineated the area contributing to the source, and identified the potential sources of contamination within that delineation. Along with the geology, susceptibility, and determination of risk to your water supply, this information is available in what is called the source water assessment.

Where is your source water assessment? Much research, evaluation, and effort has gone into developing the base information of your source of water supply. Many times with the constraint of finances, manpower, and lack of available time, this resource only makes it to a shelf to collect dust. We all know that prevention is the best cure, but often times we set it aside to take care of the real and eminent fires going on to keep up with current compliance regulations. Set aside a little time and review your source water assessment and think about the risks and hazards that are hanging over your head and keep you from being able to meet compliance standards, if you are the water system operator. It reminds me of that insurance ad on TV about the deductible the company has for a client. The deductible is portrayed as a giant boulder hanging in a tree over the client's head. The potential risks are out there, but there are things you can do to reduce those risks to the vulnerability of your water system supply and to reduce that boulder to a pebble.

You take the lead. As operator, you may not be able to invest much time or resource to this, but discuss it with your clients, subscribers and users; they are the ones who are paying rates that keep the system in business, maintaining a safe and compliant system with your help. There may be folks out there who care enough to contribute time and effort to a worthy cause, especially one that is close to their health, welfare and pocketbook. Rally some interest in developing a source water protection plan to prevent future catastrophes from causing an extreme hardship on your system and increased costs to your constituents.

A few committed people interested in being involved with protection of your source of water supply, can put together the source water protection plan and begin to take the next steps to implement the action items of the plan.

It's really not that difficult.

1. Introduce yourself to your system's source water assessment. Find it and dust it off. Review the components: Source(s) of supply, delineated source water protection area, potential contaminant sources. Then call Oregon Association of Water Utilities, OAWU, Ph. (503) 837-1212 to express your interest in a source water protection plan.
2. We will help you and your team review the potential contaminant sources and their risk rankings. Following this review, a priority toward addressing the threats or potential contaminates can be determined.
3. Best management practices are developed to promote awareness of those operations and activities that may pose a potential threat to the drinking water protection area. To reduce potential threats to the local water supply, a list of management strategies is developed that will itemize the actions that can be taken towards reduction of each potential contaminate source with the goal of substantial implementation. Promoting awareness may simply be distribution of information of fact sheets about a particular threat or potential contaminate or gathering folks together to inform them of the potential threats to their drinking water and what they can do to reduce the risks.
4. Part of the source water protection plan is to include a contingency plan. Most public water systems already have a contingency plan. All that is required is to review it, update it if needed, and include it in the protection plan.

Taking source water protection to the next level is achieved by submittal of the plan to DEQ for certification of groundwater sources and approval of surface water sources. The

ction?

benefits of certification or approval are as follows:

A. Better local management of the resource.

B. Better long-term planning.

C. Clarifies State and Federal resource prioritization.

D. Potentially reduces monitoring costs for ground water systems.

E. Obtaining future priority funding for protection activities.

To get a plan ready and submitted for certification or approval requires meeting certain requirements or elements in each plan, especially when seeking to reduce monitoring requirements or addressing Goal 5 of the Dept. of Land Conservation and Development land use planning program for protection of "statewide significant resource" requirements.

To continue the certification procedure, complete the following four items:

5. Identify on a map the jurisdictional boundaries of each responsible management authority within the protection area. Identify responsibilities and duties of each authority toward implementing the plan. Have each authority sign the plan indicating their willingness to implement the actions outlined in the plan.
6. Delineate the drinking water protection area; the area that contributes to or impacts the waters that are the reserve for the public water system's source of supply. This will have been included in your source water assessment.
7. When a new or additional source is added to an existing public water system or a new public water system is formed, the appropriate authority will have a delineation established and an inventory of potential contaminate sources completed to evaluate the long term viability of the new site. This information will modify and update the existing protection plan.
8. Property owners and residents within the source water protection area must be notified of the process to develop and participate in the development of a drinking water protection plan. The team formed to develop the plan will provide opportunity for various interests in the area to participate and document the local public hearing procedures followed in developing and adopting the plan.

So there you have it; the requirements for submitting a certified groundwater plan or approved surface water plan. I hope this gives you a better overview of what is involved in source water protection work. Again, if you want some assistance in developing a protection plan for your drinking water source, call OAWU at 503-837-1212.

Complacency's Silence

by Tim Tice, Projects Manager

During the twenty plus years of employment, there have been too many times when days and weeks fly by without a thought of the challenges and accomplishments that have occurred. The perception was that life and work were in a groove, flowing by without any worries of being catapulted out. Often we don't realize that, instead of being in a groove we are in a rut. The difference between the two, in my humble opinion, is a groove is ever changing, reviewed and improved upon, like a river. A groove doesn't simply happen but is directed towards a goal of gaining better results. "Get into the groove, man!" A rut is static, a place to become stuck.

A major contributor to a rut is complacency. The dictionary defines complacency as," being self-satisfied, a calm sense of well-being and security, self-satisfaction accompanied by unawareness of actual dangers or deficiencies." How does a complacent state of mind come about? The short answer is, "life's lack of examination".

Many of us have grandiose ideas that relate to salary, family ideals, and success. If achieved we become satisfied, if delayed melancholy can settle in. Melancholy shows up without an announcement. Ideals are developed in the subconscious and certainly need regular reevaluation towards becoming apparent our conscious mind.

Winston Churchill said, "Success is not final, failure is not fatal: it is the courage to continue that counts." Continue in a way to look positively towards people, places, and things. Churchill was someone who realized that any level of success was temporary. Continue to strive toward an improved or corrected direction to keep success from fading away.

Being someone who doesn't practice New Year resolutions, I find it a joy to assertively ask questions of an acquaintance, looking for a particular word or phrase that teaches me. The art of communication takes on many methods, but the one approached with kindness, delicately places a profound thought in both participants. Presented here is a challenge to perform a deliberate act of kindness; something so subtle, that the only goal is to keep the dangers of complacency away. A minimal way to reprogramming your thoughts towards continued success.

The silence of complacency is deafening. When realized that it is upon us, it can have a profound impact. Complacency; euphorically hypnotizing unaware people to rest on their already accomplished goals, should be considered the polar opposite of success

A shift from the personal aspect of complacency to business, work's complacency is eliminated by understanding the personnel, consumer, member, or supplier. Building those relationships is a continuing process; thus showing growth and understanding when conducted with the right intention. Unaware of the frustrations and concerns of these groups will create disconnect and hinder the betterment of both parties. Complacency in the safety arena will no doubt lead to accidents. It is our everyday activities which create complacency, yet those tasks we need to have the most focus are the same that lull us to sleep, the last form of complacency. Surely, a catch-22 scenario!

In every form of life; family, business, government and even recreation, complacency has its drawbacks that can lead to disappointments. Assuming the minor details will be taken care of will assure the path you're on is not yours. Is our path being cluttered with too many distractions? Too many focal points! Waking up to discover you're lost! How do we continue to concentrate on so much and do it all so satisfactorily? Do we simply focus on a few areas? What area would you like to focus and change?

For those readers who have children or happen to be over the age of thirty, we can all agree that time is flying past us. It seems we still converse about Christmas and here it is, the last week of April 2011. Time and complacency are both in the room and can be a hindrance to accomplishing the

"Towering Sand Dunes"
Great Sand Dunes National Park and Preserve
Wing Chi Poon
May 11, 2006

goals. By adjusting the bar on your goals, complacency may stay away, but not forever. It is as prevalent as the air we breathe or the time that flies past us. Revisit the goals, make adjustment, and accept the challenges that come with change. Directed change is easier to swallow than coerced change. Keep complacency at bay with daily dose of reworking your groove via good thoughts, words, and actions.

The best that life has to offer!

Planning Ahead!

by Bruce Hemenway, Training Specialist

Some years back I was talking with a person who had just had a near miss on her motorcycle. She and her husband were taking a road-trip, each had their own bike. They were riding on a state route, two lane highway in California. The wife was in the lead following a car, staying back about 200 feet. They were traveling near the speed limit of 55 MPH. As they approached a secondary road to the right, the driver of the car began breaking hard to make the right hand turn. Apparently, he was about to miss the turn. This maneuver, by the driver of the car, created a near miss situation for the person on the motorcycle. Just as the driver made the right turn, he put on his right turn signal.

The husband stopped beside his wife to make sure she was unharmed. Then he took out after the driver of the car, and caught up with him. He pulled alongside and motioned to the driver to pull over. He had several things to say, but the first was a classic. He told the driver of the car, "I don't want to know what you *did*, I want to know what you're *going to do*." An operator of a motor vehicle needs to plan ahead by giving advanced warning to drivers of other motor vehicles, both ahead and behind, of their intentions of making either a left or right hand turn.

Planning ahead, how important is it. DHS-DWP believes for water systems, that planning is very important. In fact, it is a requirement that every water system have an Operations and Maintenance manual and an Emergency Response Plan. If your system does not have an O&M or an ERP, when you have an emergency, you can't tell everyone what you did to take care of the emergency. However, if you have an updated O&M and ERP, when DHS, or anyone else wants to see how you, the system operator, will handle an emergency you can show them your plan which will demonstrate "what you're going to do."

These documents can be anything from brief, to a document the size of a paperback novel. At the very least, they should include the make, model, and serial number of every critical piece of equipment needed to supply water to your customers. You should include contact information such as phone numbers, addresses and web-sites for each manufacturer and vendor for those critical components.

An ERP should also include emergency contact numbers for fire, police, relief operators, possibly a welder and an equipment owner/operator. Include sources for notifying the general public in the case of a prolonged loss of water service, phone numbers for neighboring water systems that could be available to assist in an emergency, and local power company and the local phone company may need to assist as well. And, don't forget to notify DHS-DWP. And of course, OAWU, 503-837-1212.

Good planners will have answers to the following questions:

- Will you need to block a road or highway to make repairs?
- Will an emergency generator be needed?
- If a well pump fails, how long will it be for a replacement pump to be obtained?
- Is there a well pump specialist available to perform the needed repairs?
- Do you have an inventory of parts on hand as replacement for components subject to failure?
- Do you have a preventative maintenance program in place to minimize system component failures?

I once visited a water system. The operator gave me a tour showing me all the critical components of the system. The last components was the reservoir, which was located on the side of a mountain directly under a loose rock outcropping. To our surprise, some large (as in huge) rocks had broken loose and smashed directly onto and across the top of the concrete reservoir. The operator frequently checked the reservoir, because he knew that the event had happened very recently. Did the operator recognize the potential of falling rocks and that in a worst case scenario the reservoir may be out of service while repairs were being made? How then would an emergency response plan be beneficial?

In this case, an emergency response plan would outline what to do in case of the loss

of the reservoir. It would describe how to maintain water service for the customers while repairs, or possibly a replacement reservoir was being constructed.

I would say that O&M would be a complete inventory of your water system, along with a description of day to day functions and operations. This includes everything from pump and motors to pipe lines, valves and switches. This means anything if failed, your system would you to be out of production. Then, with that list in hand, compile an ERP that would give you the most cost effective plan for repairs to your system.

Don't be like the driver of the automobile that let the operator of the motorcycle know what he did, instead of what he was going to do. Even if you know everything about your system, if you have all the phone numbers and names in your head, and there is not one thing that could happen in your system that you could not handle; how about the relief operator, the person that oversees the operations of the system while you're away on your annual elk hunt. If you have created an ERP, then in case of an emergency, that person could be as effective as you in returning the system to full operations.

Oregon Association of Water Utilities has a brand new class. The class is designed to help you develop and create an O&M manual as well as your systems ERP.

Remember; knowing what you did is not as valuable as knowing what you're going to do!

The Old Angel

Throwing My Loop
Michael Johnson

Leon was in a good mood…a very good mood. He sat in his favorite chair high above the small arena watching the young man named Mitch work with the two horses, one of which had been real trouble for most all of the first two weeks. The old angel had been a horseman during his time on earth, and knew exactly what Mitch – far down below – was trying to do. Leon was feeling good because he knew evaluating Mitchell would be an enjoyable experience – and that Mitch would get good marks. He knew that in the first few days. Then, the buzzer vibrated in his ear signaling a call from HQ…

"This is Leon. I can help you," he answered.

"Leon? It's Maxine in personnel. We're sending you another intern."

"Oh, brother," he thought to himself. "Just when things were going great."

"Can it wait just a day or two, Maxine? I'm almost through here."

"You know better than to ask that, Leon," she said. "If your mentoring skills weren't so effective, we wouldn't always be sending you a new one."

Leon sighed, and said, "Okay. When is he coming?"

"Here's there now," said Maxine.

Leon looked over to his right. Sitting beside him was a young man around thirty or so, looking all spiffy with his pressed shirt and starched jeans. The cowboy extended his hand and said, "Hey, old partner. I'm Charlie."

"Old partner?" thought Leon.

"Hello, Charlie," he said. "I'm finishing up an evaluation here. Be done this sometime later this evening. You're welcome to stay and observe if you like."

"Meaning, 'Don't talk while I'm working.' But Leon knew he would never be that lucky.

"Oh sure, old partner" said Charlie. "I know all about evaluations. Learned all about'em in orientation. Us angels watch how people live, then report on them to Headquarters. You know you're lucky, Leon. I can help you out here."

"Really?" Leon said, dragging the word out slowly. "How so?"

"I know all about people," said Charlie. "And I really know all about horses."

"Well," said Leon, looking off into the sky. "That is remarkable."

"See?" said Charlie with excitement. "Look at that. Right now, he should pop that horse on the butt with his rope."

Leon looked down over the railing to see the young colt dancing nervously just outside the roping box. "And what would that do?" asked Leon, in a serious tone.

"Well," Charlie said loudly. "You gotta' teach that horse who's boss. You can't let him get away with that."

Leon remembered how nervous the horse had been in the first few days, and how proud he had been of Mitch and his calm patience. He rose from his chair and said, "'Scuse me a minute, Charlie. Gotta' make a call." After walking out of earshot, he dialed the number.

"Maxine? This is Leon. I've decided what I'm going to do with Charlie."

"Oh good, Leon. What are you going to do?"

"I'm gonna' kill him. I'm gonna' stab him in the brain with an ice pick."

"No you're not, Leon."

"Yes, I am. I'm gonna' kill him graveyard dead. It's the best thing for everybody."

"You can't do that, Leon. Besides he's already dead. You say that about every one of them, but later, you always find a way to help them be better."

"Well, if I can help this one, it will be a miracle. The Lord himself is going to have to help me with Charlie."

"How can I be of service?" said the kindest of voices.

Instantly, Leon regretted having said the words. He turned to see Jesus – dressed in denim shirt and faded jeans - smiling at him.

"Oh Lord, I shouldn't have bothered you. I was just complaining."

"Charlie can be a bit trying," Jesus laughed. "But I asked that you be assigned to him because I have such faith in you, old friend. It will be all right. I know you will do well."

"How do you know that, Lord?" Leon asked.

"Because I believe in you, " He said. "I have faith in you, son." And He was gone.

The day wore on, Leon watching Mitch and the horses, and Charlie talking non-stop for the entire time. Later that evening, both angels watched as Mitch went into the city for dinner with friends. Afterwards, as Mitch walked back to his truck through the dark downtown streets, a voice came from the shadows of an alley…

"Cowboy? Hey, Mr. Cowboy? You couldn't spare some change for an old man down on his luck, could you?"

Mitch peered into the darkness seeing nothing. Then, an old gnarled and twisted hand came from the dark, palm upward. Mitch reached into his pocket and took out a ten-dollar bill. He put the money in the old man's hand with tenderness, and walked on saying nothing. Halfway down the block, he heard the words from the blackness…

"Mercy, brother! Mercy! Ten dollars? Mercy, brother. Oh, what mercy!"

At that moment, Leon, watching from above, leaned forward and opened his journal. Turning to the section marked "Mitch," he ran his finger across the page until he found the column marked "Least of These." In the box under that column, Leon carefully placed a small plus sign.

"Whoa! Hold it right there, old partner," said Charlie, staring over Leon's shoulder. Leon turned to look at Charlie. "What?" he asked.

"There's your problem right there," said Charlie. "That old bum's just gonna' drink up that money. No way in the world Mitch should get a plus sign for helping that old fool get drunk. You need to change that. Bum's just gonna' drink that money up."

Leon sighed again and focused solely on holding his tongue. "Charlie…" he began quietly. "Charlie…I'm not assigned to watch the bum."

Charlie started to say something, then stopped. There was silence for a time.

"I'm not doing too good at this angel business, am I?" he asked Leon. Leon said nothing.

"Didn't do very good at life either," Charlie added quietly. "Hit a train. Died in a wreck at thirty."

"How did you hit a train?" asked Leon.

"It's easy…if you're drunk," said Charlie, with deep regret and shame in his voice.

Leon thought for a time, then said "Well actually, I think you will do fine. It will be all right."

"Yeah, right," Charlie laughed. "How do you know that?"

"Well, uh…well, because I have faith in you," said the old cowboy.

"You do?" Charlie asked, unable to hide his surprise.

"Oh, yeah," said Leon. "You know, actually I asked for you. I asked that you be assigned to me."

"You're kidding," said Charlie, stunned. "Why did you do that?"

"Uh, well," Leon stuttered. Then he remembered the words that had helped him so.

"Because I believe in you. I have faith in you, son."

—Michael Johnson

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QUIZ CORNER

1. There were 75 closures of Oregon public water systems over the past 5 years, of these what is the approximate percentage that were preventable?
   A. 10%
   B. 40%
   C. 70%
   D. 95%
2. What does the acronym SDWIS stand for?
   A. Safe Drinking Water Information System.
   B. Sanitary Division for Waste Integration Systems.
   C. Surface Delegated Water Isolation System.
   D. Successful Distilleries Waste Insignificant Supplies.
3. A rancher has a watering trough with two water sources. One is a spring and the other a well. Each source will fill the trough in 12 minutes with the drain plug in. With the drain plug out and the water off, it will take 10 minutes to drain the trough. With both the spring and the well running, and the drain plug out, how long will it take to fill the trough?
   A. 29 minutes
   B. 19 minutes
   C. 15 minutes
   D. 7.5 minutes
4. What is the required Ultraviolet wave length in nm to sterilize water?
   A. 140nm to 200nm
   B. 200nm to 240nm
   C. 240nm to 280nm
   D. 280nm to 400nm
5. What is the required chlorine residual at the end of a distribution system?
   A. Detectable disinfectant residual
   B. .2 ppm
   C. 1.0ppm.
   D. 4.0ppm
6. A slow sand water filtration plant must not exceed __ NTUs in the finished water 95% of the time.
   A. 0.3
   B. 1
   C. 2
   D. 4
7. As pH increases, the disinfection capabilities of chlorine decreases.
   A. True
   B. False
8. Chromium III is carcinogenic.
   A. True
   B. False
9. One gallon of 12.5% chlorine will dose a 125,000 gallon tank at __ ppm
   A. 4
   B. 3
   C. 2
   D. 1
10. Backspin in a pump at the end of the shutdown process would indicate_____.
    A. Improper wiring of the pump
    B. Faulty check valve of foot valve assembly
    C. The pump is of foreign build
    D. This is normal operation of a pump

ANSWERS
1-C (from Oregon DEQ data), 2-A, 3-C, 4-C, 5-A, 6-A, 7-A, 8-B, 9-D, 10-B

McNulty Water PUD Receives National Award

The Great American Water Taste Test, sponsored by the National Rural Water Association (NRWA), is held every year as part of the Association's Rural Water Rally in Washington, D.C.

McNulty Water PUD was selected to compete against entries from across the country by virtue of its selection as the best tasting water in Oregon during 2010. Judges awarded McNulty Water PUD top honors last February at the OAWU Sun River Conference conducted by the Oregon Association of Water Utilities (OAWU), a member of the NRWA.

According to Jason Green, Executive Director, OAWU – each state holds a water taste test at their state conferences, and those winners are eligible for entry into the Great American Water Taste Test. Each sample was judged on clarity, bouquet and taste. Five finalists are selected and judged by a special judging panel to decide the awards.

"This is a wonderful recognition," noted Andy Tinkess, Certified Operator/Manager of McNulty Water PUD. "It's definitely something to be proud of because we work very hard to deliver our customers safe, clean drinking water and the best tasting too."

"It was a great honor to be selected the best tasting water in the State of Oregon, stated President Art Castor, to be in the top five in the nation is incredible."

Receiving the national taste test Bronze Award for McNulty Water PUD at the 2011 OAWU 33rd Annual Management & Technical Conference were McNulty Water PUD's Cert. Operator/Manger, Andy Tinkess and Office Manger, Patricia Maenza.

The water submitted for this taste test came from the District's own well water.

Incorporated as an association in 1964 and turning into a PUD in 2003, the McNulty Water People's Utility District is a domestic water utility serving over 920 residents. The PUD is situated within Warren and Saint Helens Oregon in Columbia County.

Article by Jerry Arnold, West Slope Water District and OAWU Board Member

OREGON ASSOCIATION OF WATER UTILITIES 2011 TRAINING & EVENTS SCHEDULE

Date	Class Title	Location	CEU Information	ESAC#	Fee/Free
May 3-5	Water (WT/WD) Certification Review	Salem	1.8 Water/1.2 WW	1596	FEE
May 11	Well Performance Issues	Bend	0.4 Water	2059	FREE
May 18	Safe Drinking Water Act Update	Bandon	0.4 Water	1740	FREE
May 25	Developing your O&M Manual	Bend	0.6 Water/Wastewater	2113	FEE
June 8	Advanced Control Valve	Newport	0.9 Water/0.4 Wastewater	1927	FEE
June 16	Safe Drinking Water Act Update	Salem	0.4	1740	FREE
August 22-25	Summer Classic XVII	Seaside	1.4 (+) Water/Wastewater	*TBA*	FEE
September 13-14	Wastewater (WWT/WWC) Certification Review	Salem	1.4 Wastewater/0.5 Water	1711	FEE
September 20-22	Water (WT/WD) Certification Review	Bend	1.8 Water/1.2 WW	1596	FEE
September 27-29	Water (WT/WD) Certification Review	Salem	1.8 Water/1.2 WW	1596	FEE
November 1-3	Small System Operator's Conference	Florence	2.0 Water/Wastewater	*TBA*	FEE
December 6-8	13th Annual End of Year Operator's Conference	Hood River	2.0 Water/Wastewater	*TBA*	FEE

2011 State Water exam dates	Application Deadline
April 2011 (Online Exam)	April 1, 2011
May 19, 2011	March 15, 2011
October 20, 2011	August 15, 2011

*For additional **water exam information**, please visit http://oregon.gov/DHS/ph/dwp/certif.shtml*

2011 State Wastewater exam dates	Application Deadline
March 25 (Statewide)	February 1
March 31 (Pendleton)	February 1

*For further **wastewater exam information**, please visit http://www.deq.state.or.us/wq/opcert/opcert.htm*

Training class dates, class topic and/or locations may be subject to change as needed.

Oregon ESAC/CEU accreditation
Phone/Fax: 503-698-8494
info@oesac.org
www.oesac.com

For more information on any class by OAWU, please contact the office at 503-837-1212, office@oawu.net or visit www.oawu.net.

MEMBERSHIP APPLICATION

(PLEASE TYPE OR PRINT)

Name:_____

Address:_____

City/State: _____

County: _____ ZIP: _____

System Email: _____

Phone: _____ Fax: _____

Operator: _____

Contact Person: _____

Number of Hook-ups: _____

Were you referred? By whom _____

Type of System:

❑ Water ❑ Wastewater ❑ Both

Membership Category	Amount of Dues
❑ Regular Member	$_____ See schedule below
❑ Associate Member	$400.00
❑ Individual Member	$75.00

Regular Member Dues Schedule

1 to 100	$75 + 26 cents per hookup
101 to 500	$80 + 26 cents per hookup
501 to 1,000	$90 + 26 cents per hookup
1,000 and up	$100 + 26 cents per hookup
Maximum dues is	$890.00

Mail payment to: **OAWU**
935 N. Main Street
Independence, OR 97351

or Submit:

❑ VISA ❑ MasterCard ❑ AMEX

Card #: _____

Expiration Date: _____

Name on Card:_____

Signature_____

MB11

Membership Types

Regular Member

A Regular Member shall be any water or wastewater utility, public or private, engaged in the production, distribution or reclamation of water. A Regular Member shall have one vote.

Annual Dues - See Dues Schedule

Associate Member

An Associate Member shall be any organization individual or corporation, supplying services or equipment to wastewater utilities. An Associate Member shall have one vote. For Associate Member Benefits, please contact OAWU.

Annual Dues $400.00 per year

Individual Member

An Individual Member shall be an individual involved in the water/wastewater industry or a user of such utilities. The membership is informational in nature and shall be non-voting.

Annual Dues $75.00 per year

Benefits of Membership

- On-site technical assistance
- Various free training programs
- Discounts on training courses
- Discounts on Annual Conference registration
- Access to on-site training program
- Subscription to quarterly *H2Oregon* magazine
- Direct mailings in your area about upcoming training courses
- Summaries of legislative issues
- Legislative representation at state and federal level
- Associate Member Services and Products Guide
- Access to technical assistance library
- Access to technical and testing equipment for loan
- Voting rights in Association affairs (Regular & Associate Members)
- Positive contacts with other organizations
- Camaraderie with water and wastewater professionals
- Operator Of Record services
- Job referrals, announcements and searches
- Well testing
- Plan review
- System performance evaluation and options
- Additional programs and services
- Disaster response assistance and planning

WHY AREN'T *YOU* A *MEMBER* OF OAWU?

Serving Members Since 1977

- We provide **onsite technical assistance and training**, meaning that we will come to you and help with any problems you may be encountering with water or wastewater.
- We provide water and sewer **rates** and **lagoon profiling**. Call OAWU at 503-837-1212 for a bid or estimate. We can save you money!

These are just a few facts about OAWU. The next time you are in need, pick up the phone and call us before hiring outside help. We are here to help. ***It's our industry. It's what we do.***

To join or for more information, visit www.oawu.net or call 503-837-1212.

Oregon Association of Water Utilities
935 N. Main Street
Independence, Oregon 97351
Phone (503) 837-1212
Fax (503) 837-1213 www.oawu.net

OAWU's mission is to provide service, support, and solutions for Oregon water and wastewater utilities to meet the challenges of today and tomorrow.

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Oaks Mobile Home Park
Oceanside Water District
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Oregon Water Wonderland II Sanitary District
Orient Drive Mobile Estates, LLC
Otter Rock Water District
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Pete's Mt. Water Company, Inc.
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Phoenix, City of
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Pioneer Village Water Company, Inc.
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Pleasant View Water Company
Polehn Heights Water Association, Inc.
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Port of Tillamook Bay
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Powers, City of
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Richland, City of
Rickreall Community Water Association
Riddle, City of
Rimrock West Improvement District
River Meadows Improvement District
Riverbend-Riverbank Water District
Rivergrove Water District
Riverside Water District
Riverview Trailer Park
Riviera Mobile Park
Roats Water System, Inc.
Roberts Creek Water District
Rock Creek Water District
Rockaway Beach, City of
Rocky Pointe Marina
Rogue Community College
Rogue Lea Estates MHP LLC
Rogue River, City of
Rogue River-Siskiyou National Forest
Roseburg Forest Products Co.
Round Lake Utilities
Rufus, City of
Running Y Utility Company
Salem, City of Public Works
Salem-Keizer School District
Salmon River Mobile Village
Salmon Valley Water Company
Sam's Valley Elem. School Dist. #6
Sauvie Island Moorage
Scappoose, City of
Scenic Fruit Company
Scio, City of
Scoffield Mobile Home Court
Scotts Mills, City of
Scravel Hill Water Co-op
Seal Rock Water District
Seneca, City of
Seventh Mt. Golf Village
Shadow Hills Park Water Cooperative
Shady Cove, City of
Shady Rest Mobile Court
Shangri-La Water District
Shenandoah Home Owners, Inc.
Sheridan, City of
Sherwood, City of
Shorewood Estates
Siletz, City of
Silver Falls School District 4J
Sisters, City of
Skylane Farm
Skyview Acres Water Company
Sodaville, City of
South Fork Ranch Homeowners, Inc.
South Fork Water Board
South Hills Water System, Inc.
Southview Water Services LLC
Southwest Lincoln County Water District
Southwood Park Water District
Spirit Mountain Gaming, Inc.
Spray, City of
Springbrook Water Association
Squaw Creek Canyon Development
St. Paul, City of
Staffordshire Water System, Inc.
Stanfield, City of
Star Satellite Improvement District
Steeves Mobile City
Storlie Water Company Inc.
Sublimity, City of
Suburban East Salem Water District
Sumpter, City of
Sunriver Environmental LLC/Sunriver Water LLC
Sunset Water Systems, Inc.
Sunshine Village Water Association
Sutherlin,City of
Sweet Home, City of
Talent, City of
Terrace Mobile Plaza
Terrebonne Domestic Water District
The Dalles, City of
Three Rivers School District
Tierra Del Mar Water Company
Tigard, City of
Tillamook Bay, Port of
Tillamook, City of
Timber Water Association
Timberline Rim Water Company
Tingley Lake Estates
Toledo, City of
Tollgate Water Company
Train Mountain Railroad Museum
Trappist Abbey
Tri City Water & Sanitary Authority
Troutdale, City of
Tualatin Valley Water District
Tumalo Rim Water Impr. Dist.
Turner, City of
Twin Rocks Sanitary District
Tygh Valley Water District
Umatilla, City of
Umpqua Basin Water Assn.
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Unity, City of
US Army/COE-Cottage Grove
Vale, City of
Valley View Water Co-op
Valley View Water District
Veneta, City of
Vernonia, City of
Waldport, City of
Wallowa Lake Co. Service District
Warm Springs, Conf. Tribes Reservation of OR
Warren Water Association
Warrenton, City of
Wasco, City of
Water Wonderland Improvement District
Watseco-Barview Water District
Wedderburn Sanitary District
Welches Water Company
Weldon Mobile Home Park
West Hills Water Company
West Linn, City
West Slope Water District
West Yamhill Water Co.
Westfir, City of
Weston, City of
Westport Water Association
Wheeler, City of
Wickiup Water District
Willamette Water Company
Willamina, City of
Wilson River Water District
Wilsonville, City of
Wi-Ne-Ma Christian Camp, Inc.
Winston-Dillard Water District
Wood Village, City of
Woodburn, City of
Woodland Mobile Home Park
Yachats, City of
Yamhill, City of
Yoncalla, City of
Young Life's Washington Family Ranch
Young's River Lewis & Clark W.D.
Youth With A Mission
Zig Zag Water Cooperative, Inc.

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Heiken, Rob
Hesse, Todd
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Koester, Leland
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Zilembo, Quintyn

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American AVK Company
American Flow Control
American Leak Detection
Anderson Perry & Associates
Aquastore NW, Inc.
Backflow Management, Inc.
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BioLynceus, LLC
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Caselle, Inc.
Chlorinators, Inc.
Consolidated Supply Co.
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Summer Classic XVII

August 22-25, 2011 • Seaside, Oregon
Seaside Convention Center
415 First Ave., Seaside, OR 97138

Small System Operator's Conference

November 1-3, 2011
Florence, Oregon

13th Annual End of Year Operator's Conference

December 6-8, 2011 • Hood River, OR

OAWU's 33rd Annual Management & Technical Conference and Exhibitor Event

March 5-9, 2012
Sunriver Resort • Sunriver, Oregon

MARK YOUR CALENDAR

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